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HEREDITARY HYPOPLASIA IN MAN, DUE TO DEGENERACY

THE UNDERLYING BASIS OF THOSE CASES HAVING A
HEREDITARY ORIGIN, AND THE RELATION OF THIS
UNDERLYING CAUSE TO THE FUNCTIONAL
NEUROSES, TUBERCULOSIS, INFECTIONS
AND IMMUNITY *

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It is my desire to bring before the profession what I believe to be the primary cause of many groups of morbid conditions heretofore considered as being separate, or as having a very loose relation one with the other.

It is known that the impregnated ovum has within it potentially the whole man or the whole woman; that is, body, mind and spirit. It has within it potentially all that constitutes temperament in the adult and also that which is spoken of as heredity as distinguished from environment, which last, however, as a directing force is largely made up of the heredity of the mother.

In order to lend directness and lucidity to this presentation of the subject, I will state here that the factor, or underlying cause, of the various morbid conditions which will be considered later is the degeneracy of the particular line of life active through the person of either the father or the mother, or through both, conveyed by the spermatozoon, or by the ovum, whereby the impregnated ovum, potentially the new individual, fails to receive from his progenitors that as yet unexplained something which brings it about that this unicellular

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organism shall in due time become evolved into a normal human being.

When the defect in the ovum is very great in degree the resulting individual is very abnormal. Without stating it as a fact, I will suggest that this is the explanation of certain abortions and of certain monsters under the so-called congenital abnormalities of structure, while others doubtless are due to the environment of the ovum while yet in the womb of the mother.

This is the explanation of idiocy, imbecility and dullness of intellect in the group of cases not caused by accidental influences acting through the mother during pregnancy.

It is the explanation of what happens when a subnormal child goes to school. He either has a fairly good body with a dull intelligence (the microcephalic type), so that he does not learn his lessons so easily as his fellows; or, on the other hand, he is unusually bright, but has not the physique to withstand the pressure even of childhood, and so that it is said the child is all brain, but has a very poor body. Between these types are those of the so-called nervous children—that is, those who have an unstable nervous system.

When the subnormal girl reaches puberty, those changes which convert the girl into a maiden fail to take place at or about the eleventh year. At this period the neck of the normal girl loses its flatness, such as a boy has, and it is no longer possible to see the sternocleido-mastoid muscles. This is due largely to the development, physiologic hypertrophy, or evolution, of the thyroid gland, aided somewhat by the increase in the thickness of the adipose tissue of the neck. The subnormal girl retains the body form of the child, wherein girl and boy are very much alike in their figures. The bones fail to develop, the hips fail to broaden, and the limbs, the body and the face do not attain the rotundity which characterizes the woman as distinguished from the man. The breasts do not develop, and in extreme cases the pubic hair is late in growing. In other words, as it is stated, puberty is delayed. The body retains the form of a neuter—that is, of a child. The pelvic organs do not develop, the vagina remains more like that of a girl, and so do the uterus, Fallopian tubes and the ovaries. It is equally true of the ligaments of the womb. This failure in development may be com-

plete or may be partial, and the least manifestation of it is the so-called pinhole os of Marion Sims, associated, as it is, with narrowness and anteflexion of the cervix. Puberty in the subnormal arrives, when it does arrive, not at 13 in this latitude, but at from 14 to 20, depending on the original defect in the ovum, aided, it may be, in particular cases, by the environment of the child after its birth. Likewise, it will be found in each of the groups of cases that the condition may, as it is said, be acquired, rather than due to the causes of which we are treating. That is, it may be due to the diseases of a nutritional character, to the influence of acute disease, such as typhoid fever, or to some accident profoundly influencing the nervous system. Heretofore it has been said that these conditions are either congenital or acquired.

After marriage such subnormal girls are relatively sterile. Some do not become pregnant: they torment their husbands and worry their doctors, and then comes nervous prostration from worrying over the situation. Others become pregnant, and the womb is imperfectly developed, resulting either in abortions, in abnormal labors, or in lacerations; many of these women have puerperal infection. Then comes nervous prostration from having had this experience. Such women are mentally unstable and everybody says they are peculiar. They are not like other women; that is, they have hypoplasia of their entire bodies. It is not merely arrested development of the pelvic organs, but arrested development of the body in general. Their bones and their muscles, their hearts and their arteries, and, most of all, their nervous system—central, spinal nerves and sympathetic—are imperfectly developed; that is, organs and parts are in a state of hypoplasia, or arrested evolution.

Such women very often have retrodisplacements, when they do not have anteflexion, and all have poor ligaments; round ligaments and uterosacrales, and the broad ligaments, and the Fallopian tubes, and the ovaries likewise are imperfectly developed—are in a state of hypoplasia.

Many of these women have, at about the age of 11, what is called chlorosis, which is a part of this general situation—it belongs in this group. Even Virchow missed the point. He recognized the fact, but did not

see the explanation. He said that chlorosis was incurable, because dependent on hypoplasia of the heart: whereas the truth is that hypoplasia of the heart is a mere incident in the general situation. Heretofore it has been said that puberty is arrested because of malnutrition resulting from chlorosis, whereas the truth is that the two have the same primary cause.

It was stated that many of these women have puerperal sepsis. This is mentioned here separately, but will be taken up later in connection with other infections.

This principle explains all the cases of displacement of the uterus not due to accidental causes acting on normal individuals.

Now comes the loose kidney, the so-called nephroptosis. It has been known that such patients usually are queer, that they have many nervous symptoms. Men who are routinists and who have operated on these patients indiscriminately have found that many of them are no better after nephropexy. Others who were more studious and thoughtful, who have taken the trouble to differentiate the cases into groups, those having direct local symptoms, those having reflex symptoms, those having hysteria, and those having nervous prostration, have found that nephropexy cured the patients in the group having local symptoms and the group having reflexes, and so they have restricted their operations to these two groups and have advised that the patients in the other two groups, namely, the hysterics and the neurasthenics, shall not be operated on; or, if operated on, that these nervous disorders shall receive appropriate treatment. The explanation is that the two groups, those having direct and those having reflex symptoms, are instances of acquired nephroptosis in persons of normal development, almost without exception: whereas the other groups are chiefly made up of the patients primarily defective. Hence the mechanical cure of the local condition cured the symptoms in two groups and could not alter the primary basis of the trouble in the other two groups. In practice this will be somewhat mixed, as the groups will overlap each other. Some patients primarily defective will have local symptoms, and operation will relieve the local symptoms, and some patients having acquired nephroptosis as the result of malnutrition due

usually to acute disease, less often to long-acting causes, and rarely to traumatism, will develop neurasthenia; hence operation in these cases will cure only the local or reflex symptoms, even in patients primarily normal, and will not influence for good, or will make worse, those having hypoplasia from arrested development.

My work as a gynecologist has brought me in relation more particularly with hysteria, neurasthenia and reflex neuroses. It is probable that such conditions as epilepsy, catalepsy, hysteria, insanity, exophthalmic goiter, etc., have the same basis in degeneracy as those conditions already considered.

As showing the relation between the two groups of cases already studied, it was two gynecologists, Edebohls and myself, who worked out these facts. It has long been observed—and this idea was especially elaborated by Harris—that those having loose kidneys have a peculiar body form; this body form is the same as that which has been discussed in connection with delayed puberty and is due to general hypoplasia. It is the form of the child—the neuter. Harris failed to recognize the underlying cause of this body form. Glendard long ago recognized that dropped stomach and dropped intestines were associated in certain cases with dropped kidneys, and as a result of his teachings, which represent a half-truth, there came confusion in the study of nephrophtosis, because the underlying cause of each was not understood. His teaching failed to take into consideration the fact that certain cases are developmental in origin and that others are acquired; hence the confusion.

This group of visceral ptoses, which includes stomach and intestines, the kidneys and the liver and the spleen and the uterus, when not acquired, are all due to developmental causes—to a primary defect in the ovum. But this is not all, because they have general hypoplasia; the liver cells and the cells of the gastric and of the intestinal glands and of the pancreas all feel the influence of the primary defect in the ovum. In addition, the nervous system suffers the consequences of this primary defect, and so we have so-called nervous indigestion, which is merely the outcome of general hypoplasia, when it is not reflex in origin. It has been known for centuries that the consumptive has a peculiar body form, speaking broadly; he or she is not erect;

there is a general appearance of lassitude and languor, due to lack of tone and to poor nutrition of the ligaments and of the muscles and of the fasciæ of the body. The form of the vertebral column is altered, its curves are changed. This change lessens the capacity of the chest and alters the configuration of the abdominal cavity. To speak first of the abdominal cavity: This change in form alters the direction in which intra-abdominal pressure exerts its force. Added to this is the lack of tone in the muscles of the abdomen, and these two factors, acting in concert on the viscera of the abdomen and pelvis, with their suspensory ligaments and the other structures which directly support them, themselves feel the influence of the primary defect in the ovum and so have lax tissues, which yield insufficient support—bring about visceral ptosis. The result in the chest is that, owing to the abnormal configuration of the bones, there is less room for the lungs, and, owing to the hypoplasia of the ribs and of the muscles of respiration and of the nerves and nerve centers which control respiration, there is defective respiration. These factors, together with the hypoplasia of the lung tissues, make this group peculiarly susceptible to the invasion of the *Bacillus tuberculosis*; and so it has long been recognized that such people—that is, those having such a configuration of their bodies—are liable to this disease—consumption, or tuberculosis.

It is noted above that the women belonging to this group are peculiarly liable to the development of puerperal infection. I have long observed that these women are especially liable: also that those on whom I have operated for dropped kidney, and the nervous group of which we have been speaking, have been especially liable to develop infection of the urinary tract from catheterization following operations. Now we see that the same group, as has been known for years, are peculiarly liable to develop consumption. What is the explanation? We must go back to the primary defect in the ovum which results in what was formerly called low tissue resistance to infection, or, as it is now stated, a low opsonic index: that is to say, that unknown something, in the blood plasma, which enables the individual through the action of the so-called opsonins to lessen the virulence of the infecting organism. Is not this, in part, the explanation of the nature of infec-

tions, of the nature of the loss of relative immunity, of the fact that some are susceptible to the actions of infectious organisms and succumb, and that others who are normal, or who are more normal than those just mentioned, are able through their opsonins to overcome the infecting organisms and thus to recover?

It was first noted by Edebohls that appendicitis of the chronic type, especially, is very common in association with loose kidney. He attributed it to the mechanical influence of the dropped kidney on the vessels of the appendix. His observation was correct, but is not his explanation erroneous? Is not the true explanation the same as that of all of the other groups?

It has long been known that those belonging to the groups discussed are queer people. Their minds are unstable and do not work like others. They do not think soundly or reason accurately, as a rule, and their judgment is apt to be bad. In other words, intellectually they are defective. Likewise the moral perversions belong peculiarly to this group. Thus in this group also are the hysterics, etc., and they are all prone to develop neurasthenia. What does this mean? Hypoplasia of the nervous system due to a primary defect in the ovum. Does not this make the whole subject simple and easy to be understood?

Now, just as with the displacements of the uterus and with the displacements of the kidney, so it is with the chest cases, and with the nervous cases; we can have acquired troubles due to the environment of the individual who is normal, or who is only slightly defective, and the two groups, the cases primarily due to heredity and those primarily due to environment, can be differentiated. In practice the prognosis in one group is good and in the other group must be guarded, is less good, or is bad. The line of treatment must be different in each group. In the acquired cases all that is necessary is to remove the cause and to remove or to cure the particular trouble by therapeutics, medical or surgical, and then the previously normal individual becomes well. In the other group, the cases due to hypoplasia, if in the case of an adult, the cause can not be removed. It lies back in the ancestors who can not be reached. So here we must get at the fringes of the question instead of at its center, fundamentally. We can cure by therapeutics, medical, hygienic or surgical.

the secondary results of this primary defect; then along the lines of nutrition, and along the lines of hygienic living, we can improve the condition of the individual until he is well enough to say that he is well again. But that individual can never do a full man's or a full woman's work. When the strains and stresses of life come on him, or her, comes the breakdown and nervous prostration.

And this is not all. This explains what we hear so much about, namely, the inadequate results attained by certain specialists, the kind who are mere routinists, who are superficial men—in other words, who are not experts—those who have not only a narrow field, but also have a shallow education, and who have selected a specialty, not that they may get at the root of the questions which come before them for solution, but in order that they may have an easy time, and not be bothered with too many problems, and so have not gone to the foundations of medicine, which are as broad as natural and physical and mental science, which is necessary for the expert, who is a true specialist. So when cases belonging to this general group (in which are represented many functional conditions or neuroses, involving particular specialties) come to these superficial or false specialists, the treatment takes the form of the useless spectacles, the nose-washes and the blowing of air through the respiratory passages, the silly use of tampons as a routine, or the painting of the os with iodin, or the mere routine employment of the rest-eure without understanding, and the use of electricity for the titillation of the nervous system—the playing on the mind by causing the vibrator to touch the body, or what is called by such men “psyehologie therapeuties,” practised by sending sparks through the patient from Leyden jars. Such men have brought specialism into disrepute among the unthinking, who have failed to recognize that such men are not specialists—that is, experts—but narrow men, with a shallow education, who neither know, nor can see, the truth, when it comes before them; and so it comes that all this routine practice, based on ignorance and incompetence, not only does no good, but wastes the patient's money and brings medicine into disrepute. The truth is that in the diseases belonging to each specialty the same factors are at work, and the explanation of the failure to get good

results is that doctors have not separated the cases developmental in origin, due to a defect, primary in the ovum, from those cases in which the disease is acquired, in a normal or relatively normal individual; or, to use the usual terms, they have confused direct and reflex symptoms with hysteria, nervousness and neurasthenia.

This subject (degeneration or hypoplasia) has long occupied my mind, and already twenty years ago I recognized the truth of it so far as it applies to the cure of women having delayed puberty. I appreciated the truth that this was developmental in origin (arrested evolution) and must be treated along nutritional and hygienic lines; but the word congenital was confusing, because one's mind was arrested in its processes at the period of birth and did not go back to the beginning, to the ancestors, and to the influences of heredity on the fertilized ovum—one's reason was lost in the fog or mystery of the creation of a new being.

I was greatly aided in the solution of the problem as applied to this group by the late Harrison Allen, the last—more's the pity—of what may be called the naturalist school of physicians. He was really a great scientist, although he was known as a rhinologist, the one who laid the foundations of the modern surgery of the nose and throat; but he had the broadest of training. He was a great craniologist, one of the most learned in this field in the world. He had been a general surgeon and had given it up because the field was not inviting to a man of his type of mind. The field was too broad and, therefore, the tendency was to make its practitioners shallow. The human mind is not great enough to go to the bottom of many things; so in time Allen, having a philosophical mind, appreciated the great truth, that a stream of given volume must be narrow if it is to become deep. And so after laying the foundations of his career very broadly, he restricted his activities within a reasonable compass.

I was puzzled, as a young gynecologist, by the condition known as "delayed puberty." I saw many cases of it in my dispensary work, where, naturally, the decadent are numerous. I recognized that such patients were peculiar people, not like others; also, that I had not been able to do much for them. I talked with Dr. Allen and he told me that he thought that it would be of interest if I should refer to him a number of such

patients to study from the standpoint of a student of natural science. I did so, and he reported his findings in about twenty of them. The report was that their osseous systems were undeveloped, their frames as much like men as like women—that is, they were neuters—that their crania were undeveloped, that they had high-arched palates, that their vocal chords were ill developed, and that such people could not be singers. He also recognized the fact that their nervous system was ill developed, but he stopped with birth and called the condition congenital. But it is evident that the only way to do anything with these people, practically, is along the lines of nutrition and hygiene, and so for twenty years I have treated this group, and then the dropped kidney group, along these lines. The word "congenital" was the stumbling-block. Dr. Allen and I each recognized that the trouble was developmental, and a hypoplasia, but we thought that the trouble was primary in the nervous system and exerted its influence through the trophic nerves, those controlling nutrition, resulting in malnutrition and arrested development.

I have long noticed that in this group of women it is very common to have leucorrhea, and have taught that this, when the discharge is thin in character, comes from the endometrium, and is due to malnutrition and not due to local disease. I failed, however, to appreciate what I believe is the fact, namely, that this is just the same condition as that previously discussed, that it is due to a hypoplasia of the cells of the endometrium so that they fail to function normally and are subject to degenerative changes in structure. Is it not the underlying cause of so-called glandular hypertrophy of the endometrium, and is not this the same pathologic condition found in the throat and called adenoids and diseased tonsils, and does not this theory explain this group of debilitated women, and also all the children who are not vigorous, and who get adenoids and diseased tonsils and become mouth-breathers?

Now how are we to differentiate the defective children, those in whom puberty is delayed, those with visceral ptoses, with consumption, with neuroses of hereditary developmental origin, from those in whom it is acquired? By eliciting the family history and by looking for the stigmata of degeneracy, particularly, because this is the easiest, for the high-arched palate of

the degenerate. All the other stigmata of degeneracy are as significant, but they are less easily recognized.

It has been only recently that the truth which lies behind all these isolated facts, so long known by many, came to me through the correlation of these isolated truths, whereby one obtained the premises, the proper point of view, from which to see the truths above noted, and on which to reason, and then the conclusion became inevitable that the real basic nature of all these apparently separate groups of morbid conditions lies in the defective ovum due to heredity and to the degeneracy. Now here lies the explanation of that ancient proverb, that the sins of the father are visited on the children to the third and fourth generation — not because the Almighty is revengeful, but because this is Nature's law and is, therefore, inevitable.

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